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A STATE-BASED SURVEY OF MALPRACTICE PREMIUMS: IMPLICATIONS FOR MEDICARE PHYSICIAN PAYMENT POLICY

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I. INTRODUCTION

A recent comparison of HCFA's estimates of the rate of increase in medical malpractice insurance premiums with those based on physician's expenses has found that HCFA's approach leads to substantially higher estimates (Zuckerman, 1991). While changes in premiums (i.e., prices) may exceed those of expenses as a result of changes in the amount and type of insurance coverage physicians purchase, the study raised questions regarding the representativeness of the underlying premium data. The fact that these data largely reflect the rates of a single nationwide insurer -- St. Paul -- whose market share has been decreasing over time suggest that physicians may be facing a very different set of premiums than those used by HCFA. Specifically, the growth in physician- owned insurance companies along with their tendency to price comparable policies at rates below commercial insurers (Zuckerman, Bovbjerg, and Sloan, 1990) means HCFA may need to alter the mix of companies represented in its data.

The need to improve the credibility of these data is heightened when one considers that they are also used in the computation of the Malpractice Geographic Practice Cost Index (MGPCI) of the Medicare Fee Schedule (Zuckerman and Norton, 1991). To the extent that the data collected by HCFA are not representative of the premiums actually paid by physicians, the resulting MGPCIs may be leading to both overpayment and underpayment under the MFS. Several comments published with the MFS Final Rule (Federal Register, November 25,1991) try to raise doubts about the validity of their area's MGPCI value. In part, these doubts may arise from the fact the physician groups realize that St. Paul is not a major insurer in their state and may not be a major insurer in other states that it proxies for in the MGPCI. Market share data compiled by A.M. Best (1991) show that St. Paul is not one of the top three insurers in 10 of the

43 states whose current MGPCI value is based on its premiums. In fact, there are only 14 states in which St. Paul is the largest medical malpractice insurer.

The goal of this study is to provide HCFA with a more representative set of premium data than is currently available. The data will be improved by including the major companies selling malpractice insurance to physicians in each state or insurance rating area. Our objective is to collect data for 1989, 1990, and 1991 from two or more companies that together account for at least 50 of the market share in an area. As relevant, both commercial insurers and physician-owned companies were surveyed. We focused on premiums for the most widely purchased type of insurance policy -- a $1 million/$3 million mature claims-made policy. In addition to these basic premium data, we gathered information on patient compensation funds (PCFs) that were established to insure against large claims. PCFs set rules with respect to required minimum levels of private insurance and impose surcharges to provide funding for large claims. Since the funds often limit physicians choices regarding insurance coverage, they should be taken into account in developing a representative measure of the level or change in premiums.

This report contains three sections. Section II reviews the data collection process and describes the construction of the premium database. The composition of the data in terms of types of companies is compared with that represented in HCFA's data. In section III, we use these data to compute the rate of change in premiums over the years covered for all companies, and for physician-owned and for-profit companies separately. These results are contrasted with HCFA's estimates for the same period. In the final section, we compute an MGPCI based on the newly collected data, but following the same conceptual approach as used in the index contained in the MFS. This allows us to examine the impact of the change in data (i.e., more and different companies and later years) without introducing other potential refinements in the MGPCI. These

refinements could include expanding the number of specialties whose premiums are used in the computation or extending the PCF-adjustments to all states with funds as opposed to limiting them to only states with mandatory participation.

II. DATA

Data Collection

The data collection approach used in this project involved two phases. In the initial phase, we conducted telephone interviews with staff at state insurance departments. These interviews were designed to identify the major physician liability insurers in each state, as well as other significant characteristics of the insurance market. The characteristics that were reported related to the existence of Patient Compensatory Funds (PCFs) or Joint Underwriting Associations (JUA) and the approximate market share for each of the major insurers in the physician liability market for the state.[1] In particular, we collected information that allowed us to determine how a PCF or JUA might affect physician costs (discussed below).

If possible, the state insurance department also provided $1 million/ $3 million mature claims-made premiums by risk class, risk class specifications, and sub-state malpractice pricing area definitions where applicable from these major insurers for 1989, 1990 and 1991. However, in most instances this was not possible and the data collection process entered a second company-level phase.

[1]Joint Underwriting Associations (JUAs) were established as a reaction to the availability crisis of the 1970s. These organizations usually function as the insurer of last resort--covering providers who cannot obtain coverage from other sources, much like assigned risk pools in automobile insurance. The stated purpose of JUAs is to assure availability of malpractice insurance coverage to health care providers at affordable levels. The JUA derives its income from premiums assessed policyholders. However, if premium income is insufficient to cover loss payments and expenses, each member company is assessed to make up the shortfall.

In this phase, using data on key personnel at each company provided by the state, we contacted insurers and requested premium data directly. Virtually every insurer suggested by the state was willing to provide the necessary data. Despite refusals from some minor insurers in a few states, there was no difficulty in meeting our goal of having premium data from companies representing at least 50 percent of the market in all states.

Sample of Insurance Companies. Premium information was collected for 57 companies. Insurers operating in more than one state are only counted once in this total. Table 1 displays the names of the insurers in the sample and their approximate market shares by state. In addition to a target of at least 50 percent of the market, the process was designed to collect information from at least one stock company and from at least one physician-owned mutual or reciprocal operating in each state. This would provide both the major insurers in all states and a mix of insurer types. However, due to the nature of some markets, this goal was not always relevant. In five states -- Arkansas, Delaware, Kansas, Vermont and West Virginia -- there was not a major physician- owned company. On the other hand, in Alaska, California, Colorado, Hawaii, Maryland, Massachusetts, Michigan, Nevada, New Hampshire, New York and Rhode Island we found no for-profit company. In both sets of states the excluded type of insurer either did not operate or had an insignificant share of the market according to the state insurance department. [Of the 57 companies, 45 are physician owned, 8 are for-profits, and 4 are JUAs.]

In 47 of the states we collected information from at least two companies. In five states we collected only 1 company, but that company represented over 70 percent of the market in all cases. On average we collected information from companies which represented approximately 82 percent of the physicians insured in a particular state. Using the market shares supplied by the state insurance agencies and information on the numbers of doctors in each state, we computed

the national markets shares of the companies in our sample. Table 2 displays the results of these computations. These figures are quite similar to those published by AM Best for 1991. For example, in our data St. Paul has a national market share of 10.7 percent, whereas Best reports their share at 12 percent. Differences may be attributable to Best's inclusion of the hospital insurance market in their analysis. By contrast, St. Paul's weight in the HCFA MEI update calculation is over 50 percent.

PCF Costs. Eight states have PCF programs. In four states -- Kansas, Pennsylvania, New Mexico and Wisconsin -- participation in the fund is mandatory. In the rest of the states -- Indiana, Louisiana, Nebraska and South Carolina -- participation in the fund is optional. Knowing the required basic limits and the surcharge by year allows us to compute the premium reflecting PCF costs. These relevant characteristics of the PCF programs in 1989, 1990 and 1991 are displayed in Table 3. All the companies in these states provided a premium for the required privately purchased coverage limits. These premiums are then multiplied by the PCF surcharge to arrive at the costs of malpractice coverage in each PCF state.

Following the methodology for the index used in the MFS, we only apply the PCF factors in those states that mandate contributions. In this way, the MGPCI captures geographic cost differences that are beyond the physicians control. However, it may not be appropriate to assume that PCF coverage is necessarily equal to that provided by a $1 million/ $3 million policy. This is especially true when the maximum PCF coverage limits are substantially lower than $1 million per claim. In New Mexico, a mandatory PCF state, coverage is only up to $500,000 per claim, suggesting that the PCF adjustment should not be applied to the base premiums. This means that New Mexico, and the optional PCF states, will be treated as non-PCF states. Their MGPCIs will be based on the premium for a $1 million/ $3 million policy charged by their major insurers.

JUA Costs. In four states -- New Hampshire, South Carolina, Rhode Island and Massachusetts -- physicians are insured largely through JUAs. During the period covered by our data, only two of these JUAs (new Hampshire and Massachusetts) imposed retroactive premium adjustments for the purposes of covering a deficit from a previous year, and as a result, require adjustment for use in a rate of change or MGPCI computation. In South Carolina, the JUA typically recovers underwriting losses by adjusting premiums charged to policy holders each year, much as other insurance agencies adjust premiums to reflect market conditions.[2]

In Rhode Island, physicians are required to pay an amount equal to 1/3 of their first year premium into a contingency fund to cover potential shortfalls. Because this is a one-time payment, it would have to somehow be amortized over the career of a physician to be included in the annual premium for a malpractice policy. Rather than making some arbitrary decisions regarding how to allocate these up-front payments, we have not included it in the premium data. This is analogous to excluding the costs of "tail" coverage that physicians are required to purchase to insure against as yet unmade claims when they retire or change companies.

In 1987, the Massachusetts JUA began billing policy holders for deficits accumulated for the years 1983 through 1985. The recovery was completed over a five year period, ending in 1991. Surcharges were computed as a percentage of each year's premiums and varied both over time and according to the physician's risk class. In New Hampshire, physicians have been paying 15 percent in excess of their premiums to a stabilization reserve fund since 1986. These payments will not end until the states determines that deficits incurred prior to 1986 have been

[2]South Carolina also has provisions for retroactive assessment, where policy holders can be charged up to 100 percent of their current premium, and insurance companies may be assessed for lost funds. These options, however, have never been utilized.

paid-off. All three years of Massachusetts and New Hampshire data have been adjusted to reflect these surcharges.

Other Adjustments and Caveats. Eight companies could not supply 1m/3m premiums because they did not offer a 1m/3m policy. The six companies offering only 1m/1m are: in Oklahoma (Physicians Insurance Liability Company); in Iowa (Iowa Physician Mutual Insurance Trust); in Virginia (Virginia Insurance Reciprocal); in Ohio (Physician Insurance Company of Ohio in 1989). In Nevada, Nevada Medical Liability Insurance Company offered only a 500/1.5m policy. In Puerto Rico, SIMED and Corporacion Insular de Seguros offered only 100/300 limits of coverage. In order to facilitate comparisons across areas, we use the St. Paul excess coverage factors to adjust premiums from 100/300 in Puerto Rico, 500/1.5m in Nevada, and 1m/1m in the other companies to the 1m/3m used for the rest of the states.

In three states, a major insurer could not provide premium data for specific years. In Hawaii and Wyoming, the Doctors' Company, representing 20 and 65 percent of the market respectively, could not provide policy information for 1989 and 1990. In Colorado, the Doctors company could not provide information for 1989. This affected our ability to use these data in the rate of change analysis and limited the information available to the MGPCI.

General Data File Construction

Data from the 57 companies were compiled into 52 individual state-specific files. In each file, there was a unique observation for each company/rating area/year combination that is present. Using the risk classification definitions provided by each insurer, we translated the risk class premiums into individual specialty premiums. These raw data were used as the input into a county-level file that is the basis for the analyses that follow.

The state files were mapped to the county-level according to the rating area definitions used by each company. In 39 states, the rating area was the entire state for all companies (i.e., every county in the state received the same premium value). For the remaining 13 states, company-level rating area definitions were applied to create an accurate mapping algorithm. In states where malpractice rates vary, the insurer charges rates based on the county within which the physician practices. The Southern California Physician Insurance Exchange (SCPIE), for example, has separate premiums for five areas - - defined by groupings of counties -- in California. Within our sample, however, sub-state insurance pricing areas are not uniform across companies within a state, nor in some cases, consistent across time within a company. Thus, while SCPIE has a sub-state pricing area that includes only Los Angeles county, the Doctor's Company has a sub-state pricing area that includes Los Angeles, San Bernadino and San Diego.

For each specialty on this county-level file, the premiums for different companies are aggregated to a "market-weighted" average. The weights are equal to the overall market share of each company, as reported by the state insurance departments. Although each insurer may not have the same market share for all specialties, we had no alternative but to assume the company's overall market share applied to all specialties. In order to be able to evaluate the impact of using data from mutuals and physician reciprocals as opposed to stock companies on the rate of change in premiums, we also created a county-level file that did not combine premiums from different types of insurance companies into market-weighted premiums.

In addition to premium information, the analysis files contain a number of other variables. In order to create an MGPCI based on a mix of specialties, we need some basis for weighting across specialties. Weights were computed using the distribution of 1990 BMAD Procedure File Medicare allowed charges by specialty. Table 4 displays the twenty specialties with the greatest

share of Medicare allowed charges and their shares of Medicare physician spending used as weights in the MGPCI. From these data, the weights for the three specialties used in the MGPCI appearing in the MFS -- general practitioners (a low risk group), general surgeons (a moderate-risk group), and orthopedic surgeons (a high risk group) -- can also be derived.[3] Each weight represents the approximate share of Medicare allowed charges for each risk grouping.

In order to compute rates of change across the twenty specialties, a specialty weight was needed. For this purpose, the counts for total non-federal, office based, patient care physicians by specialty by county were extracted from the 1988 Area Resource File (ARF). This is the same variable used in the HCFA methodology for computing the MEI update. Total population weights for 1988 were extracted from the ARF data as well.

III. RE-ESTIMATING CHANGES IN PREMIUMS

In order to assess the impact of these new data on the estimate of the rate of change in professional liability (malpractice) premiums that HCFA produces for use in the MEI, we follow a computational approach closely modelled after HCFA's methodology. Essentially, HCFA's estimate of the national rate of change in premiums can be thought of as a weighted average of the rates of change in premiums across each risk class (i.e., specialty grouping) and state for which data are available. The weights HCFA applies are on the number of non-federal office-based physicians in each risk class and state. Throughout this study, we use the non-federal office- based physician population as the basis of all weighting.

[3]When three specialties are used to compute the MGPCI, the weight for general practitioners equals the weight for that specialty plus the weights for cardiology, dermatology, gastroenterology, internal medicine, neurology, pathology, psychiatry, pulmonary diseases, and radiology. The weight for general surgeons equals the sum of the weights for general surgery, anesthesiology, obstetrics/gynecology, ophthalmology, plastic surgery, thoracic surgery, urology, and otorhinolaryngology. The weight for orthopedic surgeons also includes the weight for neurosurgeons.

Mechanically, HCFA's approach has three basic steps. First, the percent change in the premium is computed for each risk class, by state. In states with multiple insurance rating areas, the highest priced area is used to compute the percent change. This is acceptable if the percent change in the premium is unrelated to the level of the premium within a state. Second, a single state-level percent change in the premium is derived as the weighted average percent change across risk classes, using the share of physicians in the risk class as weights. Third, using the appropriate state-level weights, a national weighted average percent change in the costs of a malpractice insurance policy is derived. This end result is then fed into the malpractice component of the MEI.

The method used here differs from HCFA's method in two fundamental ways. First, instead of relying on premium changes by risk class, we base our estimates on premium changes by specialty. Given the large number of companies represented in our data and the extent of variation in risk classification schemes across companies and over time, it becomes computationally burdensome to retain the risk classes. As an alternative, we identify a set of specialties whose premiums we track. To keep the number of specialties manageable, we focus on only the top 20 specialties in terms of Part B spending in 1990. In constructing the data base, we mapped the appropriate risk class to each of these specialties according to the company and year related to the observation.

Second, in states that have multiple rating areas, we use information on all premiums and do not restrict ourselves to the highest cost area. Although HCFA's reliance on the highest cost area may not distort estimates of the rate of change, in the interest of employing a more fully representative data set we incorporated all intrastate variation in the levels of premiums in our files. Since rating areas are aggregations of counties and since different insurers in the same

state may use different rating areas, we chose to use the county as the geographic basis for our calculations.

Outside of these two exceptions, we followed HCFA's conceptual approach quite closely. We start by combining different companies' premiums into a single premium for each specialty/county/year observation. Each single premium is equal to the weighted average of the component premiums, where the weights are the approximate company market shares provided by the state insurance department. This is a step that HCFA need not have considered given its reliance on a single company in each state, but is consistent with the notion of computing a weighted average rate of change. Given a single premium for each specialty, we then compute a specialty-level change for each county and aggregate these to the county-level based on the specialty distribution of physicians in each county. A state-level change is derived as the weighted average of the county-level rates of change, and the national rate of change as the weighted average of the state values. In both of these cases, weights are a function of the distribution of physicians across areas.

In addition to computing a national average rate of change to compare to HCFA's estimates, we also wanted to be able to compare rates of change in premiums across types of companies. For example, were premiums at physician- owned companies changing more or less slowly than those at commercial insurers? Given the heavy reliance on a single commercial insurer in the HCFA data, differences in rates of change by company type could be an important factor in explaining any divergence between HCFA's estimates and those derived here. The only modification to the above methodology required to compute estimates by company type is that, in the first step, premiums from different types of companies could never be combined at the county level. Since some states either have only physician-owned companies and others have only

commercial insurers, estimates for either group could not be based on the full set of 52 states (including District of Columbia and Puerto Rico).

Results

Table 5 shows the rate of change in premiums in the 1989-1990 and 1990- 1991 periods for the nation and for each state. Overall, the results indicate that this was a period during which malpractice premiums were falling. Premiums fell by 4.0 percent, on average, between 1989 and 1990 and an additional 5.6 percent in the following year. HCFA estimated that premiums fell by 9.7 percent from 1989 to 1990 (HCFA estimates for the later period are not available yet). Despite the fact that HCFA's estimate is over twice as large as that derived here (a statistically significant difference), the two results convey the same qualitative picture. Given the weight of the malpractice component in the MEI, using these new results would have had only a modest impact on the MEI update for 1989-1990. The cumulative effect over several years would be larger, if the HCFA estimate "missed" the true rate of change to this degree for several years.

However, another reason to downplay the difference between these results and the HCFA estimate is the degree of state-to-state variation in the rates of change in premiums, i.e., the standard error of the rate of change estimate. Between 1989 and 1990 premiums rose by as much as 22.2 percent in Ohio, while falling by 46.0 percent in South Dakota. The range was somewhat smaller in the following period, but still substantial. The largest reduction in premiums occurred in Wyoming (38.6 percent between 1990 and 1991) and the greatest increase was in Texas (13.2 percent). Given this range of estimates, future studies may consider the appropriateness of using a single national rate of change as a bigger issue than the mix of companies providing premium data.

Disaggregation of our national rate of change by company type sheds some light on the cause of the difference relative to the present HCFA approach (Table 6). During 1989-1990 period, for-profit premiums were falling much faster (9.2 percent reduction) than those at physician-owned companies or JUAs (2.5 percent reduction). Since HCFA's estimate is based much more heavily on data from the for-profits, it is not surprising that their result is close to the one we derive based only on for-profits. However, it is noteworthy that in the 1990-1991 period the relative positions of for-profit and other companies changed. In the more recent period, for-profit premiums were falling by less than other premiums.

This suggests that drawing conclusions about the effect of using a more representative set of companies on estimates of the rate of change in premiums should be done very cautiously. Based on the small amount of data available, it appears that company type does have an impact on the rate of change estimate. However, neither the direction nor magnitude of that impact can be established at this time. Moreover, given the cyclicality in malpractice premiums (i.e., premiums tend to remain stable or fall for several years then rise rapidly), it is conceivable that the relationship between rates of change and company type will vary depending on where in the cycle it is being observed. While using representative data is always conceptually superior to using other data, in this instance it is impossible to say what the likely empirical effect of HCFA's approach has been over time.[4]

[4] Earlier work has established that for-profit companies charge higher premiums (Zuckerman, Bovbjerg, and Sloan, 1990). This implies that the shift away from for-profit insurers, as has occurred, would temper the rate of increase in the average premium paid for a given type of policy. For any individual physician, of course, this would only be relevant in the year the shift actually occurred. Unless a systematic relationship can be established between premium growth and company type, the shift toward physician-owned companies may have little impact on the rate of change in premiums. In fact, in terms of this analysis, their inadequate representation in HCFA's data may not be empirically important.

IV. RECOMPUTING THE MALPRACTICE GPCI

Once again, to focus on the impact of the change in data, we base the method used in this section on the conceptual framework reflected in the current index. This index was developed in the series of studies undertaken prior to implementation of the MFS (Zuckerman, Welch, and Pope, 1987; Welch, Zuckerman, and Pope, 1989; and Zuckerman and Norton, 1991). The result of these studies was a Malpractice GPCI (MGPCI) that based the geographic comparison of premiums on the premium for a $1 million/ #3 million mature claims-made policy. The only exceptions to this were the three states -- Kansas, Pennsylvania, and Wisconsin -- that require mandatory participation in state-operated PCFs. In these states, the required coverage premium plus any surcharges to fund the PCF were used instead of the $1 million/ $3 million policy. The actual index was computed using information on premiums for a low- risk specialty (e.g., general practitioners who did not perform surgery), a middle-risk specialty (e.g., general surgeons), and a high-risk specialty (e.g., orthopedists). Each risk class was weighted by its relative share of Medicare part B revenues in 1987.

The greatest shortcomings of this index in the MFS lie in the data upon which it was based. In addition to the issue of the representativeness of the companies providing data, there are also the issues of the age of the data and its completeness. By relying on premiums from 1985 and 1986, the MGPCI may not be reflecting geographic differentials that existed at the start of 1992. Obviously, since any index must rely on data from some period prior to its implementation, this issue will always remain. However, the extent of these problems are likely to be smaller when the data and the implementation date are close together. Data completeness is an issue because there were five states - - Alaska, Hawaii, New Hampshire, New Mexico, and Rhode Island -- for which HCFA did not collect premium data in 1985 or 1986. For these states,

premiums were imputed using a multivariate regression model in order to have an MGPCI value in all areas.

The new data available to this study should improve the validity of the MGPCI in a number of important ways. First and foremost, we will no longer be forced to use St. Paul data in areas where other insurers -- in particular, physician-owned insurers -- have a much larger market share. In fact, based on the discussion in Section II, there will be many areas in which no St. Paul data will enter the computation. The insurers that are represented are the ones with the largest shares of the physician liability market and, in total, account for over 70 percent of the market. For example, this study corroborates the Texas Medical Association claim that St. Paul is not a major insurer in Texas. We find that Medical Protective (40 percent of the market) and Texas Medical Liability Trust (30 percent) provide a more credible basis for their MGPCI value.

Second, these data contain observations on actual premiums from all areas of the country. No imputed values will have to be used in any state. Finally, the time period covers the most recent three years for which complete data could be available. In fact, it is our understanding that HCFA does not yet have 1991 data available through its internal data collection efforts. Another benefit of having three years of premium data is that it will allow us to base the MGPCI on a three-year average premium which should reduce its sensitivity to extreme premium changes in a single year. Recall, that the current MGPCI was based on a two-year average for 1985 and 1986 because of observed volatility in premiums.

The steps involved in computing the actual index follow our earlier work and are fairly straightforward. The initial steps were reviewed in the data base description presented above. These included combining the $1 million/ $3 million mature claims-made premiums from

different companies into a single county-level premium for each specialty. Premiums were weighted by their market shares, which were assumed to be the same for all specialties. Although this assumption may not be perfectly correct, there was no more detailed alternative. We treated the coverage provided through the mandatory PCFs in Kansas, Pennsylvania, and Wisconsin as roughly equivalent to a policy with $1 million/ $3 million limits. To be consistent with the notion that the MGPCI should reflect malpractice costs that physicians cannot avoid, we also adjusted the premiums in Massachusetts and New Hampshire to include the retroactive surcharges imposed by their JUAs to cover excess costs from previous years.

Given these county-level premiums for each specialty, we computed a population-weighted national average premium by specialty using 1988 population as the weights. A county-level, specialty-specific index is derived by dividing each premium by the national average for that specialty. These county-level indices are combined to either the state or locality based again on the population in each county.

To create a single MGPCI from the specialty-specific indices, we aggregate across specialties using each specialties' national share of 1990 Medicare allowed charges as the weight. Following the current MGPCI, the three specialties that represent three risk classes of physicians have weights of 0.585 (general practitioners), 0.349 (general surgeons), and .066 (orthopedic surgeons). These are quite close to the 1987 weights used in the current MGPCI.

Although the focus of this section is on the impact of using these new premiums in the MGPCI, there is one methodological revision that we consider. In the interest of creating an index that is more representative of all physicians, we compute one alternative that includes the 20 largest specialties in terms of their share of Medicare allowed charges. We continue to use the 1990 share of Medicare allowed charges accounted by each specialty when combining the

specialty-specific indices into an aggregate MGPCI. Because premiums tend to be highly correlated between specialties across areas, one might expect an expansion in the number of specialties will have little impact on the aggregate MGPCI values. However, because of the large numbers of companies and the extent of variation in the grouping of specialties into risk classes, there may be some areas whose values will be sensitive to mix of specialties reflected in the MGPCI.

Results

Table 7 shows the state-level change in MGPCI values resulting from the introduction of the new premium data only. In this table, the updated MGPCI is based on the same three specialties that were included in the MGPCI appearing in the current Medicare Fee Schedule rules (Federal Register, November 25, 1991). As can be seen, the change in the data has a large impact on the MGPCI. The change in the MGPCI value is less than 10 percentage points in only 19 of the 52 states (including the District of Columbia and Puerto Rico). Twenty-two states experience increase in excess of 10 percentage points, while 11 fall by a similar magnitude. There are more gaining states than losing states, because there were some large reductions in premiums in several populous states. This reduces the population-weighted premium by enough to cause more gainers than losers with the new index. The new MGPCI still has a population-weighted average of 1.0.

Most of the 11 large reductions in the MGPCI seem to result from the movement away from St. Paul data. St. Paul data was used in nine of these states for the MGPCI in the Fee Schedule. The only exceptions were California and Puerto Rico. Of the nine previously St. Paul states, only two -- Illinois and South Dakota -- are currently relying on any data from this company. However, in Illinois, St. Paul enters the MGPCI with a very small market share

compared to the major physician-owned insurer.[5] In order to separate the effect of changing companies from the effect of using more recent data, we examined St. Paul's premiums in the eight declining states where the company's role was reduced or went to zero. With the exception of Indiana, the St. Paul premiums were all substantially higher during the 1989-1991 period than those for the companies that were used. This suggests that the MGPCI values reflected in the Fee Schedule probably are too high and not representative of the market in these states.

The explanations for California and Puerto Rico are not related to changes in the source of data. In both states, the company used for the earlier data also appear in the new data base; some other companies were added. Puerto Rico's MGPCI reduction is caused by the fact that absolute premiums have remained constant since 1986. As a result, its premiums fell relative to an average that was growing in the years prior to 1989.

In California, the reduction is corroborated by other sources. Medical Liability Monitor (MLM) -- a professional liability industry newsletter --cites the state's tort reform program as the reason for its move from being one of the most expensive states in the country to one of the least expensive. While MLM's attribution of the reduction to the tort reforms appears to be based on anecdotal evidence, a premium survey conducted by the newsletter shows that California's premiums were among the lowest in the country by the late 1980's. Data presented in Welch, Zuckerman, and Pope (1989) also showed the beginning of this downward movement in this state. In 1985, California's premiums were 65 percent above the national average. However, by 1986, this differential had fallen to 12 percent. In light of the fact that the updated MGPCI is

[5]To better understand the result in South Dakota -- where St. Paul is the biggest insurer with a 50 percent share -- we contacted the company directly. They believed the result seemed plausible in light of the reduced claims frequency they experienced in this state relative to their expectations.

based on three years of data, it appears to provide an accurate estimate of the current relative costliness of malpractice premiums in California.

Turning to the 22 states that experience MGPCI increases of greater than 10 percentage points, we find that almost all data circumstances are represented. There were three states -- Arkansas, Massachusetts, and New York -- in which the source of data did not change. In fact, Arkansas was the only state that continues to be based on solely St. Paul data. Four of the states -- Alaska, Rhode Island, New Hampshire, and New Mexico -- had MGPCIs previously based on imputed premiums. These results suggest that the trend in premiums for these states deviated substantially from that captured in the regression model used for imputation. This model was based on data for the period 1974- 1986, but did not include data for the later years in the five states (including Hawaii) that required imputation.

In another seven of these 23 states, St. Paul or another company's data were completely replaced by data from previously excluded companies. These include Colorado, Florida, Michigan, Texas, West Virginia, Wisconsin, and Wyoming. As can be seen, these seven states dominate the group of states with the biggest MGPCI increases (over 25 percentage points). It appears that the reliance on data from companies that are not now major insurers in these states has resulted in an MGPCI that understated their actual relative premiums.

Finally, there were eight states that continue to use St. Paul premiums, in varying degrees based on market shares, whose MGPCIs increased by at least 10 percentage points. This is also the situation in 16 of the 18 states where the MGPCIs changed by less than 10 percentage points. Relative to the states that are no longer using any St. Paul data, markets where St. Paul data is considered somewhat relevant in the 1989-1991 period have smaller changes in their MGPCI. This is not very surprising. For these states, the original MGPCI used data that was more

representative of their markets. However, it is still the case that several of the states that are still using St. Paul premiums experienced large changes. The best example is Arkansas. In this state, the updated MGPCI increased by 12.9 percentage points, but no data other than St. Paul were used. The states that continue to use St. Paul data show that there is a strong possibility that even basing the MGPCI on a stable and representative set of companies will not necessarily ensure stability over time.

Updated MGPCIs based on an expanded set of specialties are shown in Table 8, ordered according to the extent they differ from the updated MGPCI based on the same three specialties used in the MFS. Using a less than 10 percentage point difference to signify moderate changes in the MGPCI, we find that expanding the numbers of specialties results in only moderate changes in 43 states. While this is a large number, it still means that 9 states change by more than 10 percentage points and that the MGPCI is sensitive to the choice of specialties. In fact, some states shift noticeably within the group of moderate changes, while others shift between the groups of moderate and large change. This implies that the geographic correlation in premiums between specialties is not perfect.

To better understand why the MGPCI changes to this extent as the number of specialties increases, it is useful to consider the correlation between the three original specialties and the two specialties with the largest weights that are added -- internal medicine and ophthalmology. Data not shown indicate that the correlations for internists are all about 0.95. However, for ophthalmologists, the correlations are only around 0.8. Similarly low correlations are observed for pathologists, dermatologists, and neurologists. These low correlations are caused by variations in the risk classification of particular specialists by different insurers and in variation in price differentials across risk classes. For example, in New York, 11 of the 17 specialties being added

have relative premiums that are below the national average for the specialty. Since these have about 40 percent of the weight in the new MGPCI, the overall ranking of New York falls. Conversely, in the District of Columbia, 11 of the 17 additional specialties have above average premiums, causing its MGPCI to rise.

Another way to think about the sensitivity of the MGPCI to the number of specialties is to consider the methodological justification for the 3-specialty approach. Each of the specialties used measures geographic variation in the premiums for a larger group of specialties. General practitioners is the specialty sampled to represent 10 other non-surgical, low-risk specialties but it may not always convey a representative picture of all the specialties. In the District of Columbia, GPs have premiums 35 percent below the national average for GPs, whereas internists and radiologists (2 of the 10 specialties GPs represent) have premiums 12 percent above their specialty's national average. This suggests that the single observation for GPs is not truly representative of the 10 other specialties in DC. Using three specialties leads to errors that can be thought of as resulting from samples of specialties that are too small to provide a consistent estimate of the geographic differential in premiums.

The goal of expanding the number of specialties included in the MGPCI would be to enhance its credibility as a representative measure of the average differential in premiums across all specialties. The reason for wanting the MGPCI to be representative of all specialties is that the MFS uses the same index to adjust the malpractice component of all fees. These results indicate that expanding the number of specialties would alter the MGPCI in several areas. However, as a comparison of Table 7 and Table 9 illustrates, relative to the changes associated with the introduction of the new data source, the impact of specialty is small. Specifically, there are only five states -- the District of Columbia, Hawaii, Missouri, New York, and Ohio -- where

the direction of change in the MGPCI with new data relative to the index in the MFS is sensitive to the number of specialties. Therefore, if there is a decision to introduce the new data in the MFS, it appears that it would be reasonable to expand the specialty base at the same time. This would leave the MFS with an MGPCI that is both conceptually and empirically stronger.

V. CONCLUSION

This study shows that it is possible to collect a much more representative set of premium data than has been routinely gathered by HCFA. In particular, by starting with state insurance departments, we were able to identify the set of physician liability insurers that seem to be most important during the current period. Unfortunately, the data available on market shares is a rough approximation that may be estimated very differently across states. In terms of survey timing, our experience suggests that many insurers change their rates on July 1st of each year. This means that future surveys might be planned to start in mid-July in order to be contacting insurers when premiums are more easily accessible than at other times during the year.

The effects of these new data for 1989, 1990, and 1991 differed according to the application. When used to recompute the MEI update, the new data had a noticeable but small effect relative to the data HCFA has used historically. Based on the small number of years available to this study, it is hard to conclude that HCFA has been estimating the MEI update with large errors simply because its premiums are drawn from an unrepresentative set of companies. At least for the 1989 to 1991 period, it appears that premiums were moving in the same direction, although not necessarily at similar rates for most types of insurers. However, if differences of the magnitude observed here persisted over long periods of time, then errors in the MEI might compound and become substantial.

The conclusions are much clearer when the impact of the new data on the MGPCI is considered. For this purpose, it appears that the older and less representative data used to compute the index in the Fee Schedule has resulted in errors in measurement for the current time period. While the analyses presented here do not allow us to separate the effect of the age of the data from the mix of companies, they clearly indicate that replacing the current MGPCI with one derive from these new data will lead to some redistribution of payments under the MFS. Moreover, by expanding the number of insurers providing data, we find that variations in the risk classification of specialties makes the MGPCI somewhat sensitive to the choice of specialties. Decisions regarding adopting these new data for use in the MFS will have to take all of these factors into account.

REFERENCES

Best, A.M. "Medical Malpractice. Fidelity and Surety--1990," Best's Review, December 1991.

Health Care Financing Administration. "Medicare Program: Fee Schedule for Physician Services," Federal Register, 25 November 1991, pp. 59501-59811.

Welch, P., Zuckerman, S., and Pope, G. "The Geographic Medicare Economic Index: Alternative Approaches," NTIS PB89-216592, June 1989.

Zuckerman, S. "Comparison of Trends in Malpractice Premiums and Expenses," Urban Institute Working Paper 6090-01, April 1991.

Zuckerman, S. and Norton, S. "Refining the Malpractice Geographic Practice Cost Index," NTIS PB91-155218, February 1991.

Zuckerman, S., Bovbjerg, R., and Sloan, F. "Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums," Inquiry, vol. 27, no. 2, Summer 1990.

Zuckerman, S., Welch, W.P., and Pope, G. "The Development of an Interim Geographic Medicare Economic Index." NTIS PB88-220678, December 1987.

Table 1

Insurance Company, Market Shares by Company and Total Market by State

State	Company	Insurer Type	Market Share	Total Market
Alabama	Mutual Assurence	PO	70	85
	St. Paul	FP	15	
Alaske	NORCAL (MICA prior to 1991)	PO	50	85
	MIEC	PO	35	
Arizona	MICAZ	PO	60	75
	St. Paul	FP	15	
Arkansas	St. Peul	FP	75	75
Californie	SCPIE	PO	35	90
	Doctors' Company	PO	30	
	NORCAL	PO	25	
Colorado	COPIC	PO	60	85
	Doctors' Company	PO	25	
Connecticut	CT Medical	PO	60	85
	CNA/Phys. Plans	FP	25	
Deleware	PHICO	FP	65	90
	St. Paul	FP	25	
Dist. of Columb.	Nat'l. Capital Recip.	PO	75	85
	St. Paul	FP	10	
Florida	Phys. Protective	PO	35	65
	FL Phys. Ins.	PO	15	
	CNA	FP	15	
Georgia	St. Paul	FP	40	80
	Mag. Mutual	PO	40	
Hawaii	MIEC	PO	60	80
	Doctors' Company	PO	20	
Idaho	CNA	FP	70	95
	MIEC	PO	25	
Illinois	IL State Med. Exchange	PO	70	85
	St. Paul	FP	15	
Indiana	Medical Protective	FP	55	85
	St. Paul	FP	15	
Iowa	St. Paul	FP	50	90
	Phys. Mutual Ins. Trust	PO	40	
Kansas	St. Paul	FP	40	80
	Medical Protective	FP	40	
Kentucky	KMIC	PO	35	70
	Medical Protective	FP	25	
	St. Paul	FP	10	
Louisiana	LAMMICO	PO	40	70
	St. Paul	FP	30	
Maine	Medical Mutual of ME	PO	45	85
	St. Paul	FP	40	
Maryland	Medical Mutual Liability	PO	90	90
Massachusetts	MA MMJUA	SO	90	90
Michigan	MI Phys. Mutual Liability	PO	35	70
	PICOM	PO	35	

Table 1 (cont.)

State	Company	Insurer Type	Market Share	Total Market
Minnesota	Midwest Medical	PO	50	90
	St. Paul	FP	40	
Mississippi	Medical Assurance	PO	60	90
	St. Paul	FP	30	
Missouri	Medical Defense	PO	25	60
	MOMEDICO	PO	20	
	Medical Protective	FP	15	
Montana	Doctors' Company	PO	40	60
	St. Paul	FP	20	
Nebraska	St. Paul	FP	55	70
	Medical Liab. Mutual of NE	PO	15	
Nevada	Doctors' Company	PO	55	95
	NV Med. Liab. Ins. Co.	PO	25	
	Med. Ins. Exchange of CA	PO	15	
New Hampshire	NH MMJUA	SO	95	95
New Jersey	Med. Inter-Ins. Exchange	PO	60	90
	Princeton Insurance Co.	FP	30	
New Mexico	NM Phys. Mutuel Liability	PO	85	90
	Medical Protective	FP	5	
New York	Medical Liability Mutuel NY	PO	40	60
	Med. Malp. Insurance Assoc.	PO	20	
North Carolina	St. Paul	FP	45	80
	Medicel Mutual Insurance	PO	35	
North Dakota	Midwest Medical Insur. Co.	PO	50	90
	St. Paul	FP	40	
Ohio	PIE Mutual	FP	75	95
	Phys. Insurence Co. of OH	PO	20	
Oklahoma	Phys. Liab. Ins. Co. of OK	PO	85	90
	St. Paul	FP	5	
Oregon	CNA	FP	45	85
	NW Physician Mutuel	PO	30	
	NORCAL	PO	10	
Pennsylvania	PA Med. Soc. Liab. Ins. Co.	PO	35	75
	Phys. Insurence Co. of PA	FP	30	
	Medicel Protective	FP	10	
Puerto Rico	Corporecion Insular	FP	50	75
	SIMED	SO	25	
Rhode Island	MMJUA of RI	SO	85	85
South Cerolin	SC MMJUA	SO	75	85
	St. Paul	FP	10	
South Dakota	St. Peul	FP	50	85
	Midwest Med. Insurence Co.	PO	35	
Tennessee	State Volunteer Mutual	PO	80	90
	St. Paul	FP	10	
Texas	Medical Protective	FP	40	70
	TX Medical Liability Trust	PO	30	
Utah	UT Medical Insurance Assoc.	PO	75	85
	St. Paul	FP	10	
Vermont	PHICO	FP	60	90
	St. Peul	FP	30	
Virginia	St. Paul	FP	55	90
	VA Insurance Reciprocel	PO	35	

Table 1 (cont.)

State	Company	Insurer Type	Market Share	Total Market
Washington	WA St. Phys. Ins. Exchange	Po	60	85
	CNA	FP	25	
West Virginia	PIE Mutual	FP	40	80
	CNA	FP	40	
Wisconsin	Physician Insurance of WI	PO	30	80
	Medical Protective	FP	30	
	WI Health Care Liability	PO	20	
Wyoming	Doctors' Co.	PO	65	75
	St. Paul	FP	10	

FP = For-Profit; PO = Physician-Owned; SO = State-Operated (JUA).

GLOSSARY OF COMPANYS IN SURVEY

COMPANY ABBREV.	COMPANY
CNA	CNA
COPIC	Colorado Physicians Insurance Company
CORPORAC	Corporacion Insular de Seguras
CT Medical	Connecticut Medical Insurance Company
DOCTORS COMPANY	Doctors Company (WY,CA,CO,HI)
Fl Phys Ins	Florida Physicians Insurance Company
IL State Med Exchange	Illinois State Medical Exhange
KMIC	Kentucky Medical Insurance Company
LAMMICO	Louisiane Medical Mutual Insurance Company
MAG MUTUAL	MAG Mutuel Insurance Company (Georgia)
MA MMJUA	Massachusetts Joint Underwriting Authority
Med Assurance	Medical Assurance of Mississippi
Med Defense	Medical Defense Association (Missouri)
Med Inter-Ins Exch	Medical Inter-Insurance Exchange (New Jersey)
Med Liab Mut of NE	Medical Liability Mutual of Nebraska
Med Mal Ins Assoc	Medical Malpractica Insurance Association (NY)
Med Mutuel	Medical Mutual (North Carolina)
Med Mut Liab	Medical Mutual Liability Insurance Society of MD
Med Mut of ME	Medical Mutual Insurance Company of Maine
Mad Liab Mut of NY	Medical Liability Mutual of New York
MEDICAL PROTECTIVE	Medical Protective (IN,TX,WI,NM,KS,KY)
MICA	Mutual Insurance Company of Alaske
MICAZ	Mutual Insurence Company of Arizona
MIEC	Medical Insurance Exchange of California
MI PHYS MUT LIAB	Michigan Physician Mutual Liability Company
Midwest Medical	Midwest Medical Insurance Company (ND,MN,SD)
MOMEDICO	Missouri Medical Insurance Company
Mutual Assurance	Mutual Assurence (Alabama)
Natl Capital Recip	National Capital Reciprocal Insurance Company (DC)
NH MMJUA	New Hampshire Joint Underwriting Authority
NM Phys Mut Liab	New Mexico Physicians Mutual Liability Company
NORCAL	NORCAL Mutual Insurance company (AK,CA)
NV Med liab Insur	Nevada Medical Liability Insurance Company
NW Phys	Northwest Physician Mutual Insurance Company (OR)
PHICO	PHICO Insurance Company (VT,DE)
Phys Ins	Physicians Insurance (Washington)
Physicians Insur Co	Physicians Insurance Company (Pennsylvania)
Phys Ins of Indiana	Physicians Insurance of Indiana
Phys Mut Ins Trust	Iowa Physicians Mutual Insurance Trust
Phys Protective	Physician Protective Trust Fund (Florida)
PICO	Physicians Insurance Company of Ohio
PICOM	Physicians Insurance Company of Michigan
PIE Mutual	Pie Mutual Insurance Company (Ohio)
PLICO	Physician Liability Insurance Company (Oklehoma)
PMSLIC	Pennsylvania Medical Society Liability Insurence
Princeton Insurance	The Princeton Insurance Company (New Jersey)
RI MMJUA	Rhode Island Joint Underwriting Authority
SCPIE	Southern California Physician Insurance Exchange
SC MMJUA	South Carolina Joint Underwriting Authority
SIMED	SIMED (Puerto Rico)
State Volunteer	State Volunteer Mutual Insurance Company (TN)
ST PAUL	St Paul
Texas Mad Liab Trust	Texas Medical Liability Trust
Utah med Insur Assoc	Utah Medical Insurance Association
VA Insur Recip	Virginia Insurance Reciprocal
WI HC Liab Ins Plan	Wisconsin Health Care Liability Insurance Plan
WI Phys Ins Co	Wisconsin Physicians Insurance Company

Table 2

Percentage of Doctors in Sample
Insured by Companies
Top 15 Companies

Companies	Percentage of Doctors in Sample
St. Paul	10.65%
Medical Protective	5.81
Doctors Company	5.81
SCPIE	5.63
Medical Liability of New York	5.20
Norcal	4.25
IL State Medical Exchange	4.17
Pie Mutual	4.17
MA MMJUA	3.85
Medical Mutual Liability	2.88
CNA	2.66
Medical Malpractice Insurance Assoc.	2.60
Medical Inter-Insurance Exchange	2.60
PMSLIC	2.32
Physician Protective	2.14

Table 3

PCF Adjustments

	Required Limits	Surcharge to Basic Premium	PCF Limit
Mandatory PCFs			
Kansas			
1989	200/600	125.0	3m/6m[1]
1990	200/600	135.0	1m/3m[2]
1991	200/600	120.0	1m/3m[2]
Pennsylvania			
1989	200/600	59.5%	1m/3m
1990	200/600	50.0	1m/3m
1991	200/600	68.0	1m/3m
Wisconsin			
1989	400/1m	n.a.[3]	Unlimited
1990	400/1m	n.a.[3]	Unlimited
1991	400/1m	n.a.[3]	Unlimited
New Mexico			
1989	100/300[4]	66.0	500/unlimited
1990	100/300	66.0	500/unlimited
1991	100/300	66.0	500/unlimited
Optional PCFs			
Indiana			
1989	100/300	125.0	750/unlimited
1990	100/300	125.0	750/unlimited
1991	100/300	125.0	750/unlimited
South Carolina			
1989	100/300	40.0	Unlimited
1990	100/300	30.0	Unlimited
1991	100/300	20.0	Unlimited
Louisiana			
1989	100/300	34.0	500/unlimited
1990	100/300	33.0	500/unlimited
1991	100/300	35.6	500/unlimited
Nebraska			
1989	200/600	45.0	1m/3m
1990	200/600	40.0	1m/3m
1991	200/600	35.0	1m/3m

1. Only surcharge offered.
2. 3 limits offered. 65 percent chose 1m/3m policy shown.
3. Wisconsin has specific premiums by class which it charges for PCF coverage.
4. Starting July 1, 1991, 150/450 instead of 100/300.

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Table 4

MGPCI Weights by Specialty for
Top 20 Medicare Specialties
(1990)

Specialty	MGPCI Weight
General Surgery	7.16%
Anesthesiology	4.34
Cardiology	9.00
Dermatology	2.12
General/Family Practice	9.42
Gastroenterology	2.95
Internal Medicine	18.46
Neurology	1.54
Neurosurgery	0.98
Obstretics/Gynecology	0.81
Ophthalmology	13.09
Orthopedic Surgery	5.62
Pathology	1.47
Plastic Surgery	.56
Psychiatry	1.64
Pulmonary Disease	1.83
Radiology	10.27
Thoracic Surgery	3.41
Urology	4.06
Ortolaryngology	1.25

Source: 1990 BMAD Procedure File.

Note: Each weight is equal to the share of 1990 allowed charges accounted for by the individual specialty divided by the share accounted for by all 20 specialties.

Table 5

Annual Rate of Change in Premiums by State,
1989-1990 and 1990-1991

State	Annual Rate of Change 1989-1990	1990-1991
ALL STATES	-4.0%	-5.6%
Alabama	-4.3	-3.3
Alaska	-9.5	-14.7
Arizona	1.4	21.2
Arkansas	-8.5	-17.4
California	-1.4	-5.2
Colorado	-8.1	-7.8
Connecticut	-1.1	-10.4
Delaware	-31.3	-10.1
Dist of Columbia	5.0	-1.1
Florida	-14.9	-8.5
Georgia	-15.1	-4.3
Hawaii	-4.3	-0.4
Idaho	3.5	-4.8
Illinois	-3.6	0.5
Indiana	0.0	-13.8
Iowa	-25.9	-17.7
Kansas	0.9	-28.3
Kentucky	-12.3	-2.8
Louisiana	-8.9	-5.2
Maine	-24.6	-20.6
Maryland	0.0	0.0
Massachusetts	13.0	-32.2
Michigan	11.7	0.8
Minnesota	-33.4	-15.3
Mississippi	-16.5	-3.9
Missouri	-8.3	-12.4
Montana	-22.0	-12.9
Nebraska	-21.3	-16.7
Nevada	0.0	-7.7
New Hampshire	0.0	13.4
New Jersey	-4.5	-2.0
New Mexico	0.0	-25.6
New York	0.7	-6.2
North Carolina	-21.4	-0.3
North Dakota	-28.0	-7.7
Ohio	22.3	6.1
Oklahoma	-2.0	1.9
Oregon	-9.3	-25.2
Pennsylvania	-9.1	-3.1
Puerto Rico	0.0	0.0
Rhode Island	6.1	4.9
South Carolina	0.0	-22.8
South Dakota	-46.0	-0.5
Tennessee	0.0	-1.9
Texas	-3.2	13.2
Utah	-8.2	-4.9
Vermont	-25.3	-6.5
Virginia	-28.6	-0.6
Washington	-4.0	-18.1
West Virginia	-11.1	-0.2
Wisconsin	6.1	-5.6
Wyoming	-36.3	-38.6

Table 6

Rate of Change in Premiums by Type of Insurer and Year

Year	Type of Insurer		
	All	For-Profit	Physician-Owned*
1989-90	-4.0%	-9.2%	-2.5%
1990-91	-5.6	-3.3	-6.1
1989-91	-9.4	-12.1	-8.4
Average Annual	-4.8	-6.3	-4.3

* Includes Joint Underwriting Associations

Table 7

Impact of New Data on MGPCI, by State
(ascending order of change)

State	MGPCI in MFS	MGPCI Based on New Data	Change
California	1.370	0.779	-0.591
Pennsylvania	1.270	0.801	-0.467
New Jersey	1.153	0.735	-0.418
Illinois	1.458	1.096	-0.362
Idaho	0.889	0.584	-0.305
Washington	1.064	0.805	-0.259
Oregon	0.951	0.715	-0.236
South Dakota	0.688	0.476	-0.212
Nevada	1.144	0.938	-0.206
Puerto Rico	0.466	0.285	-0.181
Indiana	0.529	0.365	-0.164
South Carolina	0.448	0.359	-0.089
Dist of Columbia	0.922	0.839	-0.083
Louisiana	0.913	0.833	-0.080
Minnesota	0.748	0.671	-0.077
Vermont	0.533	0.459	-0.074
Ohio	0.920	0.847	-0.073
Utah	0.739	0.667	-0.072
Virginia	0.632	0.574	-0.058
North Dakota	0.688	0.638	-0.050
Oklahoma	0.516	0.470	-0.046
Connecticut	1.102	1.074	-0.028
Missouri	1.247	1.225	-0.022
Nebraska	0.435	0.472	0.037
Maryland	0.921	0.961	0.040
North Carolina	0.378	0.427	0.049
Alabama	0.824	0.876	0.052
Mississippi	0.650	0.713	0.063
Hawaii	1.025	1.097	0.072
Iowa	0.666	0.747	0.081
Wyoming	0.641	0.748	0.107
New Mexico	0.767	0.886	0.119
Montana	0.718	0.839	0.121
Arkansas	0.302	0.431	0.129
Kentucky	0.667	0.796	0.129
Delaware	0.664	0.812	0.148
Kansas	1.134	1.287	0.153
Georgia	0.752	0.919	0.167
New York	1.547	1.731	0.184
Tennessee	0.407	0.596	0.189
Maine	0.716	0.968	0.252
New Hampshire	0.602	0.865	0.263
West Virginia	0.688	0.966	0.278
Massachusetts	0.855	1.162	0.307
Texas	0.530	0.861	0.331
Colorado	0.683	1.021	0.338
Wisconsin	0.762	1.128	0.366
Arizona	1.255	1.692	0.437
Florida	1.258	1.794	0.536
Rhode Island	0.734	1.482	0.748
Alaska	1.042	1.901	0.859
Michigan	1.447	2.478	1.031

Note: All indices in this table are based on a weighted average of the underlying MGPCIs for general practitioners, general surgeons, and orthopedists.

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Table 8

Impact of Expanding the Number of Specialties
on MGPCI, by State
(ascending order of change)

State	3-Specialty MGPCI	20-Specialty MGPCI	Change
Arizona	1.692	1.434	-0.258
New York	1.731	1.491	-0.240
Colorado	1.021	0.840	-0.181
Hawaii	1.097	0.943	-0.154
Alaska	1.901	1.791	-0.110
California	0.779	0.690	-0.089
Maine	0.968	0.886	-0.082
Michigan	2.478	2.402	-0.076
Tennessee	0.596	0.534	-0.062
Connecticut	1.074	1.037	-0.037
Nevada	0.938	0.901	-0.037
Massachusetts	1.162	1.128	-0.034
New Mexico	0.886	0.861	-0.025
Washington	0.805	0.786	-0.019
Puerto Rico	0.285	0.270	-0.015
Montana	0.839	0.833	-0.006
Utah	0.667	0.666	-0.001
Indiana	0.365	0.368	0.003
Iowa	0.747	0.768	0.021
Vermont	0.459	0.481	0.022
Oklahoma	0.470	0.492	0.022
New Hampshire	0.865	0.888	0.023
Wyoming	0.748	0.772	0.024
Wisconsin	1.128	1.152	0.024
Nebraska	0.472	0.496	0.024
Georgia	0.919	0.945	0.026
North Carolina	0.427	0.455	0.028
New Jersey	0.735	0.764	0.029
Arkansas	0.431	0.462	0.031
Minnesota	0.671	0.704	0.033
Virginia	0.574	0.609	0.035
South Dakota	0.476	0.518	0.042
Mississippi	0.713	0.756	0.043
Kentucky	0.796	0.840	0.044
South Carolina	0.359	0.404	0.045
Florida	1.794	1.840	0.046
North Dakota	0.638	0.687	0.049
Maryland	0.961	1.011	0.050
Missouri	1.225	1.277	0.052
Oregon	0.715	0.771	0.056
Idaho	0.584	0.642	0.058
West Virginia	0.966	1.029	0.063
Kansas	1.287	1.359	0.072
Louisiana	0.833	0.906	0.073
Delaware	0.812	0.892	0.080
Alabama	0.876	0.959	0.083
Illinois	1.096	1.183	0.087
Texas	0.861	0.956	0.095
Ohio	0.847	0.968	0.121
Pennsylvania	0.801	0.929	0.128
Rhode Island	1.482	1.637	0.155
Dist of Columbia	0.839	1.116	0.277

Note: All indices in this table are based on the new premium data collected as part of this project.

Table 9

Impact of New 20-Specialty Data on MGPCI, by State
(in ascending order)

State	MGPCI in MFS	20-Specialty MGPCI	Change
CALIFORNIA	1.370	0.690	-0.680
NEW JERSEY	1.153	0.764	-0.389
PENNSYLVANIA	1.270	0.929	-0.341
WASHINGTON	1.064	0.786	-0.278
ILLINOIS	1.458	1.183	-0.275
IDAHO	0.889	0.642	-0.247
NEVADA	1.144	0.901	-0.243
PUERTO RICO	0.466	0.270	-0.196
OREGON	0.951	0.771	-0.180
SOUTH DAKOTA	0.688	0.518	-0.170
INDIANA	0.529	0.368	-0.161
HAWAII	1.025	0.943	-0.082
UTAH	0.739	0.666	-0.073
CONNECTICUT	1.102	1.037	-0.065
NEW YORK	1.547	1.491	-0.056
VERMONT	0.533	0.481	-0.052
MINNESOTA	0.748	0.704	-0.044
SOUTH CAROLINA	0.448	0.404	-0.044
OKLAHOMA	0.516	0.492	-0.024
VIRGINIA	0.632	0.609	-0.023
LOUISIANA	0.913	0.906	-0.007
NORTH DAKOTA	0.688	0.687	-0.001
MISSOURI	1.247	1.277	0.030
OHIO	0.920	0.968	0.048
NEBRASKA	0.435	0.496	0.061
NORTH CAROLINA	0.378	0.455	0.077
MARYLAND	0.921	1.011	0.090
NEW MEXICO	0.767	0.861	0.094
IOWA	0.666	0.768	0.102
MISSISSIPPI	0.650	0.756	0.106
MONTANA	0.718	0.833	0.115
TENNESSEE	0.407	0.534	0.127
WYOMING	0.641	0.772	0.131
ALABAMA	0.824	0.959	0.135
COLORADO	0.683	0.840	0.157
ARKANSAS	0.302	0.462	0.160
MAINE	0.716	0.886	0.170
KENTUCKY	0.667	0.840	0.173
ARIZONA	1.255	1.434	0.179
GEORGIA	0.752	0.945	0.193
DIST OF COLUMBIA	0.922	1.116	0.194
KANSAS	1.134	1.359	0.225
DELAWARE	0.664	0.892	0.228
MASSACHUSETTS	0.855	1.128	0.273
NEW HAMPSHIRE	0.602	0.888	0.286
WEST VIRGINIA	0.688	1.029	0.341
WISCONSIN	0.762	1.152	0.390
TEXAS	0.530	0.956	0.426
FLORIDA	1.258	1.840	0.582
ALASKA	1.042	1.791	0.749
RHODE ISLAND	0.734	1.637	0.903
MICHIGAN	1.447	2.402	0.955

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